

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 6, 13, 21, 24, 26, 27, 29, 30, 32, 35, 37, 41, 42, and 44, and cancel claim 5 as set forth in the following listing of claims, which will replace all prior versions, and listings, of claims in the present application.

Listing of Claims

1. (Currently Amended) A device providing SDH/SONET Automatic Protection Switching (APS) functionality in an Ethernet environment, comprising:

an Ethernet APS Bridge Selector for implementing SDH/SONET APS in an Ethernet environment, the Ethernet APS Bridge Selector providing one of a SDH/SONET Bridge or a SDH/SONET Selector; and

an Ethernet APS Bridge Selector Sublayer for managing the Ethernet APS Bridge Selector;

wherein the Ethernet APS Bridge Selector interconnects Media Access Control (MAC) hardware and a plurality of Physical Layer (PHY) hardware devices.

2. (Original) The device of claim 1, wherein the MAC interfaces with the Ethernet APS Bridge Selector.

3. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector interfaces with the plurality of PHY hardware devices.

4. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector enables Standard SDH/SONET APS functionality in an Ethernet Architecture.

5. (Canceled).

6. (Currently Amended) The device of claim 1, wherein the Ethernet APS Bridge Selector comprises at least one of a bridge ~~and~~ or a selector.

7. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector executes bridging operations.

8. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector executes selector operations.
9. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector executes switching operations.
10. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector enables drop and continue functionality.
11. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector enables pass through functionality.
12. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector interfaces with a MAC using RS interface primitives.
13. (Currently amended) The device of claim 1, wherein the Bridge Selector Sublayer interface comprises a PHY interface in the form of one of XGMII, GMII, ~~and~~ or MII.
14. (Original) The device of claim 1, wherein the Bridge Selector Sublayer interface comprises an Attachment Unit Interface (AUI) in the form of XAUI.
15. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector interfaces the PHY using a MAC to PHY interconnect interface.
16. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector bridges between the plurality of PHY hardware devices.
17. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector selects between the plurality of PHY hardware devices.

18. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector switches between the plurality of PHY hardware devices.

19. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector provides switchover within 50 ms for recovery and protection functionality.

20. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector provides a PLS interface to control APS functionality.

21. (Currently Amended) The device of claim 1, wherein the Ethernet APS Bridge Selector provides signals in the form of one of XGMII ~~and~~ or XAUI, to control APS functionality.

22. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector provides control/register interfaces to control APS functionality.

23. (Original) The device of claim 1, wherein the Ethernet APS Bridge Selector is one of unidirectional and bidirectional.

24. (Currently Amended) The device of claim 1, wherein the Ethernet APS Bridge Selector is utilized in at least one of nested ~~and~~ or non-nested combinations.

25. (Original) The device of claim 1, further comprising a plurality of MAC sublayers that control the Ethernet APS Bridge Selector.

26. (Currently Amended) The device of claim 1, wherein the Ethernet APS Bridge Selector is controlled by a MAC Client in the form of at least one of APS ~~and~~ or OAMP.

27. (Currently Amended) The device of claim 1, wherein the Ethernet APS Bridge Selector is controlled by software in the form of at least one of APS Controller software ~~and~~ or OAMP software.

28. (Original) The device of claim 1, further comprising hardware implementing a plurality of Ethernet APS Bridge Selector devices.

29. (Currently Amended) The device of claim 1, wherein the Ethernet APS Bridge Selector devices are implemented in at least one of a MAC, XGXS, XAUI, ~~and~~ or PHY hardware device.

30. (Currently Amended) A method of providing SDH/SONET APS functionality for ~~on~~ a MAC hardware device and a plurality of PHY hardware devices, comprising:

providing a Bridge Selector APS sublayer;

configuring the Bridge Selector APS sublayer in a bridge mode for providing SDH/SONET bridging functionality; and

bridging a MAC hardware device to a plurality of PHY hardware devices;

wherein the Bridge Selector APS sublayer interfaces to MAC transmit signals and bridges signals to a plurality of PHY transmit signals.

31. (Original) The method of claim 30, wherein the Bridge Selector APS Sublayer interface comprises an RS interface in the form of PLS.

32. (Currently Amended) The method of claim 30, wherein the Bridge Selector APS Sublayer interface comprises an MII interface in the form of at least one of XGMII, GMII, ~~and~~ or MII.

33. (Original) The method of claim 30, wherein the Bridge Selector APS Sublayer interface comprises an AUI in the form of XAUI.

34. (Original) The method of claim 30, wherein the Bridge Selector APS sublayer comprises a bridge configured to be in pass through mode wherein an input interface passes through to an output interface.

35. (Currently Amended) A method of providing SDH/SONET APS functionality for ~~on~~ a MAC hardware device and a plurality of PHY hardware devices, comprising:

configuring a Bridge Selector APS Sublayer in selector mode for providing SDH/SONET Selector functionality;

the Bridge Selector APS Sublayer selecting from the plurality of PHY hardware devices for connection to the MAC hardware device;

the Bridge Selector APS Sublayer interfacing to a plurality of PHY receive signals and selecting signals to MAC receive signals; and

switching over from an active channel to one of a standby channel ~~and~~ or a specified channel when requested.

36. (Original) The method of claim 35, wherein the Bridge Selector APS Sublayer interface comprises an RS interface in the form of PLS.

37. (Currently Amended) The method of claim 35, wherein the Bridge Selector APS Sublayer interface comprises an MII interface in the form of at least one of XGMII, GMII, ~~and~~ or MII.

38. (Original) The method of claim 35, wherein the Bridge Selector APS Sublayer interface comprises an AUI in the form of XAUI.

39. (Original) The method of claim 35, wherein the Bridge Selector APS Sublayer comprises a bridge configured to be in pass through mode, wherein an input interface passes through to output interfaces.

40. (Original) The method of claim 35, wherein the step of switching over executes within 50 ms to provide recovery functionality on an Ethernet protocol network.

41. (Currently Amended) A method of providing SDH/SONET APS functionality on an Ethernet protocol network, comprising the steps of:

configuring a an Ethernet APS Bridge Selector in bridge mode to provide a SDH/SONET bridge, and

bridging transmit traffic to working and protect channels on an Ethernet protocol network.

42. (Currently Amended) A method of providing SDH/SONET APS functionality on an Ethernet protocol network, comprising the steps of:

configuring a an Ethernet APS Bridge Selector in selector mode to provide a SDH/SONET selector on an Ethernet protocol network;

selecting receive traffic from at least one of working ~~and~~ or protect channels; and
switching from an active channel to one of a standby channel ~~and~~ or a specified channel when requested.

43. (Original) The method of claim 42, wherein the method executes within 50 ms to provide recovery functionality.

44. (Currently Amended) A method of providing SDH/SONET APS functionality on an Ethernet protocol network comprising the steps of:

one of bridging ~~and~~ or selecting, by an Ethernet APS Bridge Selector implementing SDH/SONET APS on an Ethernet protocol network, between a MAC hardware device and a plurality of PHY hardware devices; and

switching, by the Ethernet APS Bridge Selector, over from an active channel to one of a standby channel ~~and~~ or a specified channel when requested.

45. (Original) The method of claim 44, wherein the method enables standard SDH/SONET APS functionality for linear, ring, and mesh topologies for Ethernet protocol networks using signal and control/register interfaces.

46. (Original) The method of claim 44, wherein the method executes within 50 ms to provide recovery functionality.